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10/598,513	11/05/2007	Takao Ikuno	00862.108808.	6679

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EXAMINER	
RUST, ERIC A	

ART UNIT	PAPER NUMBER
2625	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,513	IKUNO ET AL.	
	Examiner	Art Unit	
	ERIC A. RUST	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In the Amendment filed on June 30, 2009, Applicants amended claims 1, 6, and 12-17. Claims 1-17 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,943,508 to Penney et al. (hereinafter, Penney) in view of Applicant Admitted Prior Art (hereinafter, AAPA) and further in view of U.S. Patent No. 6,587,735 B1 to Yaguchi.

In regard to claim 1, Penney discloses an image processing apparatus (**Penney, Fig. 1, and col. 1, lines 49-52**) comprising:

a plurality of code converting units (**Penney, Fig. 1, item 14**) configured to execute coding and decoding of image data (**Penney, col. 2, lines 19-22**);

a plurality of request-source task units (**Penney, Fig. 1, item 11**), the number of task units being greater than the number of code converting units (**Penney, col. 2, lines 13-15**) and having priorities that depend on their respective tasks (**Penney, col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input**

sources, the Examiner interprets this source as having a high priority with the other sources having lower priority); and

an assigning unit (**Penney, Fig. 1, item 18**) configured to assign one of said plurality of code converting units to one of said plurality of request-source task units having a high priority (**Penney, col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority with the other sources having lower priority**) and, if there is an idle code converting unit among the plurality of code converting units, assigning the idle code converting unit to one of said plurality of request-source task units having a low priority (**Penney, col. 3, lines 13-16, and 46-52, assigned as needed**).

Penney does not disclose wherein the plurality of request-source task units are configured to request any of said plurality of code converting units to perform a code conversion of image data, and that assigning unit assigns code converting units to a processing request from one of said plurality of request-source task.

AAPA, however, discloses code processing units being requested to execute processing (**AAPA, pg. 2, lines 9-14**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Penny with the teachings of AAPA for having the plurality of request-source task units configured to request any of said plurality of code converting units to perform a code conversion of image data, and that assigning unit assigns code converting units to a processing request from one of said plurality of

request-source task in order to ensure data is processed when needed and when able. That is, the request would ensure that data is sent when the code converting units are available, and that data would not be sent if the code converting units were not available. In this way, data would not be lost. This increases user satisfaction.

Neither Penney nor AAPA disclose the plurality of code converting units comprising at least one of a hardware-implemented code converting unit and a non-transitory computer-readable medium.

Yaguchi, however, discloses code converting units constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code converting units for executing code conversion by hardware (**Yaguchi, col. 18, lines 58-61**); and said assigning unit assigns said software-implemented code converting units to the processing requests of the request-source task units. (**Yaguchi, col. 19, lines 32-34**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Yaguchi with the teachings AAPA and Penney for having code converting units constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code converting units for executing code conversion by hardware; and said assigning unit assigns said software-implemented code converting units to the processing requests of the request-source task units in order to execute data at high speed and in order to select the optimum processor at processing time (**Yaguchi, col. 1, lines 54-63**).

In regard to claim 2, which depends from claim 1, the combination of Penney and AAPA disclose wherein said code converting units have one-to-one correspondence to the request-source task units having the high priority (**Penney, col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority**); and

said assigning unit assigns the corresponding code processing units in accordance with the processing requests from the request-source task units having the high priority (**AAPA, pg. 2, lines 9-14, and Penney, col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority**).

In regard to claim 3, which depends from claim 1, the combination of Penney and AAPA disclose wherein code converting units, the number of which is smaller than the number of the request-source task units having the low priority, correspond to these request-source task units having the low priority (**Penney, col. 2, lines 13-15 and 47-53, one of the outputs of the input matrix is assigned to one of the input sources, and one of the decoders is coupled to the output, the remaining decoders would be distributed and assigned as needed to the sources, see Penney, col. 3, lines 13-16, and 46-52**); and

said assigning unit assigns said code converting units in a prescribed order to the processing requests from the request-source task units having the low priority (**AAPA, pg. 2, lines 9-14, and Penney, col. 2, lines 13-15 and 47-53, one of the outputs of**

the input matrix is assigned to one of the input sources, and one of the decoders is coupled to the output, the remaining decoders would be distributed and assigned as needed to the sources, see Penney, col. 3, lines 13-16, and 46-52).

In regard to claim 4, which depends from claim 3, Yaguchi discloses code converting units constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code converting units for executing code conversion by hardware (**Yaguchi, col. 18, lines 58-61**); and said assigning unit assigns said software-implemented code converting units to the processing requests of the request-source task units. (**Yaguchi, col. 19, lines 32-34**).

4. Claims 7-9 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Penney in view of AAPA.

In regard to claims 7 and 13, Penney discloses an image processing method (**Penney, Fig. 1, and col. 1, lines 49-52**) comprising:

of a plurality of request-source task units (**Penney, Fig. 1, item 11**), the number of which is greater than the number of a plurality of code converting units (**Penney, col. 2, lines 13-15**) and having priorities that depend on their respective tasks, said code converting units executing coding and decoding of image data (**Penney, col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority with the other sources having lower priority**);

a priority processing determination step of determining whether the request-source task unit should be processed with priority **(Penney, col. 2, lines 47-53)**; and

an assigning step of assigning one of said plurality of code converting units to one of said plurality of request-source task units determined to have a high priority **(Penney, col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority with the other sources having lower priority)** and, if there is an idle node processing unit among the code converting units, assigning the idle code processing unit to one of said plurality of request-source task units determined to have a low priority **(Penney, col. 3, lines 13-16, and 46-52, assigned as needed)**.

Penney does not disclose a processing-request issuing step of issuing a processing request to a code converting unit by any request-source task unit; receiving the processing request and determining if the processing request issued by the of request-source task should be issued with priority; and that the assigning step assigns code converting units to a processing request from one of said plurality of request-source task.

AAPA, however, discloses code processing units being requested to execute processing **(AAPA, pg. 2, lines 9-14)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Penny with the teachings of AAPA for a processing-request issuing step of issuing a processing request to a code converting unit by any request-source task unit; receiving the processing request and determining if the

processing request issued by the of request-source task should be issued with priority; and that the assigning step assigns code converting units to a processing request from one of said plurality of request-source task in order to ensure data is processed when needed and when able. That is, the request would ensure that data is sent when the code converting units are available, and that data would not be sent if the code converting units were not available. In this way, data would not be lost. This increases user satisfaction.

In regard to claims 8 and 14, which depend from claims 7 and 13, respectively, the combination of Penney and AAPA disclose wherein said code converting units have one-to-one correspondence to the request-source task units having the high priority (**Penney, col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority**); and

said assigning step assigns the corresponding code processing units in accordance with the processing requests from the request-source task units having the high priority (**AAPA, pg. 2, lines 9-14, and Penney, col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority**).

In regard to claims 9 and 15, which depend from claims 7 and 13, respectively, the combination of Penney and AAPA disclose wherein code converting units, the

number of which is smaller than the number of the request-source task units having the low priority, correspond to these request-source task units having the low priority (**Penney, col. 2, lines 13-15 and 47-53, one of the outputs of the input matrix is assigned to one of the input sources, and one of the decoders is coupled to the output, the remaining decoders would be distributed and assigned as needed to the sources, see Penney, col. 3, lines 13-16, and 46-52**); and

said assigning step assigns said code converting units in a prescribed order to the processing requests from the request-source task units having the low priority (**AAPA, pg. 2, lines 9-14, and Penney, col. 2, lines 13-15 and 47-53, one of the outputs of the input matrix is assigned to one of the input sources, and one of the decoders is coupled to the output, the remaining decoders would be distributed and assigned as needed to the sources, see Penney, col. 3, lines 13-16, and 46-52**).

5. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Penney, AAPA, and Yaguchi.

In regard to claims 10 and 16, which depend from claims 9 and 15, respectively, neither AAPA nor Penney disclose wherein said code converting units are constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code converting units for executing code conversion by hardware; and

said assigning step assigns said software-implemented code converting units to the processing requests of the request-source task units.

Yaguchi, however, discloses code converting units constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code converting units for executing code conversion by hardware (**Yaguchi, col. 18, lines 58-61**); and said assigning unit assigns said software-implemented code converting units to the request-source task units. (**Yaguchi, col. 19, lines 32-34**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Yaguchi with the teachings AAPA and Penney for having code converting units constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code converting units for executing code conversion by hardware; and said assigning unit assigns said software-implemented code converting units to the processing requests of the request-source task units in order to execute data at high speed and in order to select the optimum processor at processing time (**Yaguchi, col. 1, lines 54-63**).

6. Claims 5-6, 11-12, and 17 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Penney, AAPA, and Yaguchi, in view of U.S. Patent Application Publication No. 2005/0047666 A1 to Mitchell et al. (hereinafter, Mitchell).

In regard to claims 5, 11, and 17, which depend from claims 4, 10, and 16, respectively, Penney discloses wherein said request-source task units having the high priority are classified into a first unit group processed and a second unit group (**Penney, col. 2, lines 62-64, the "advance assignment"**).

Neither Penney nor AAPA disclose wherein the first unit group is processed by said software-implemented code converting units and the second unit group processed by said hardware-implemented code converting units.

Yaguchi, however, discloses a first unit group being processed by software-implemented code converting units (**Yaguchi, col. 18, line 58 - col. 19, line 36, the first group is processing that requires more than a predetermined time, see specifically, Yaguchi, col. 19, lines 21-26, and lines 27-34**) and a second unit group processed by hardware-implemented code converting units (**Yaguchi, col. 18, line 58 - col. 19, line 36, the second group is processing that requires less than a predetermined time, see specifically, Yaguchi, col. 19, lines 21-26**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Yaguchi with the teachings Penney and AAP for having a first unit group being processed by said software-implemented code converting units, and a second unit group processed by said hardware-implemented code converting units in order to execute data at high speed and in order to select the optimum processor at processing time (**Yaguchi, col. 1, lines 54-63**).

Neither Yaguchi, AAPA, nor Penney specifically disclose the second unit group processed by said hardware-implemented code converting units via said software-implemented code converting units.

Mitchell, however, discloses tasks being processed by hardware-implemented code converting units via software-implemented code converting units (**Mitchell, Abstract, lines 9-13**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Mitchell with the teachings of Yaguchi, AAPA, and Penney for having tasks being processed by hardware-implemented code converting units via software-implemented code converting units in order to prepare data for non-compliant hardware decoders (**Mitchell, Abstract, lines 11-13**).

In regard to claims 6 and 12, which depend from claims 5 and 11, respectively, Yaguchi discloses wherein said hardware-implemented code converting units are adapted so as to be used by the request-source task units of said second unit group (**Yaguchi, col. 19, lines 21-26, processing that requires less than a predetermined time is processed by hardware, accordingly, said hardware-implemented code converting units are adapted so as to be used by the request-source task units of said second unit group**).

Response to Arguments

7. Applicants' argue that Penney does not disclose or suggest the priority assignment of code converting units to a processing request, or the specific type of priority assignment performed by the invention of amended Claim 1. *See* Amendment pg. 6.

The Examiner agrees that Penney does not disclose a processing request as recite din the claims. However, this argument is rendered moot by new grounds of rejection as detailed above.

As for Applicants' argument that Penney does not disclose the specific type of priority assignment performed by the invention of amended Claim 1, the Examiner disagrees.

Relevant recitations of claim 1 are as follows:

"an assigning unit configured to assign for assigning one of said plurality of code converting units to a processing request from one of said plurality of request-source task units having a high priority and, if there is an idle code converting unit among the plurality of code converting units, assigning the idle code converting unit to a processing request from one of said plurality of request-source task units having a low priority."

In Penney, at col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority with the other sources having lower priority.

Moreover in Penney, at col. 3, lines 13-16, and 46-52, the processors are assigned as needed. The Examiner interprets this as assigning the idle code converting unit to one of said plurality of request-source task units having a low priority.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC A. RUST whose telephone number is (571)-270-3380. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on (571)-272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-270-4380.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ERIC A. RUST/

Examiner, Art Unit 2625

04/19/2010

/Benny Q Tieu/

Supervisory Patent Examiner, Art Unit 2625